# Review of Service-Unique Data and Transactions, Phase II

## Air Force Conclusion Briefing



DI102B1

September 2001

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LOGISTICS MANAGEMENT INSTITUTE
2000 CORPORATE RIDGE
MCLEAN, VIRGINIA 22102-7805

# Contents

# Briefing

LMI

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## Logistics Management Institute

Paul T. Jensen
Laura E. Green
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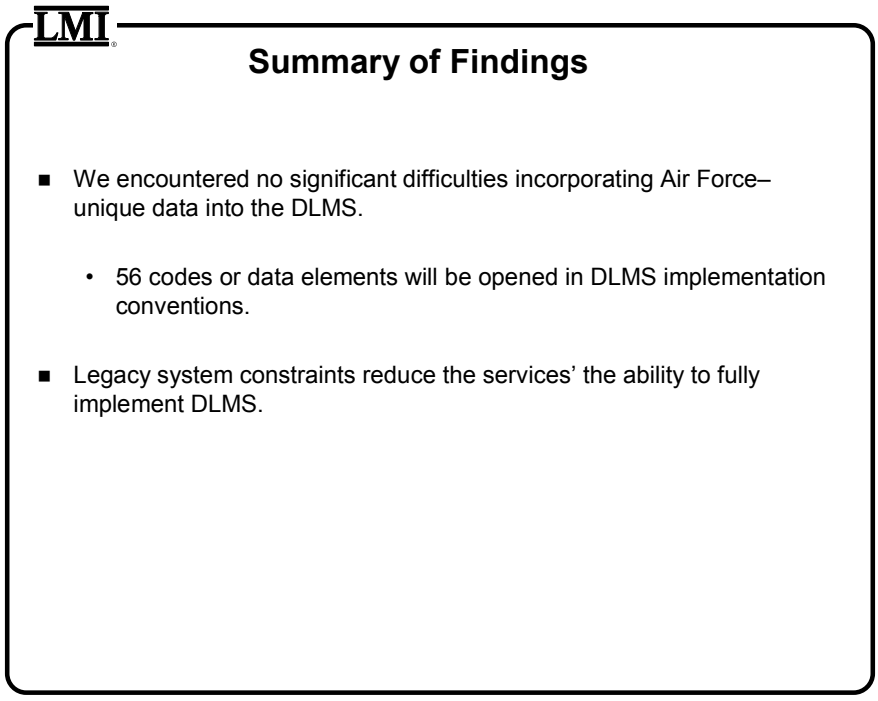
September 2001

This is the final report (an annotated briefing) for Phase II of a study to determine the extent data elements in the Defense Logistics Standard Systems (DLSS) are unique to military services and Defense agencies. Incorporating these service-unique data elements into the Defense Logistics Management System (DLMS) is a key factor in the services' implementation of commercial electronic data interchange standards.

This summary of the Phase II effort describes our findings and recommendations for the Air Force–unique data elements in the existing DLMS transactions. This report does not address specific Air Force–unique transactions in detail.

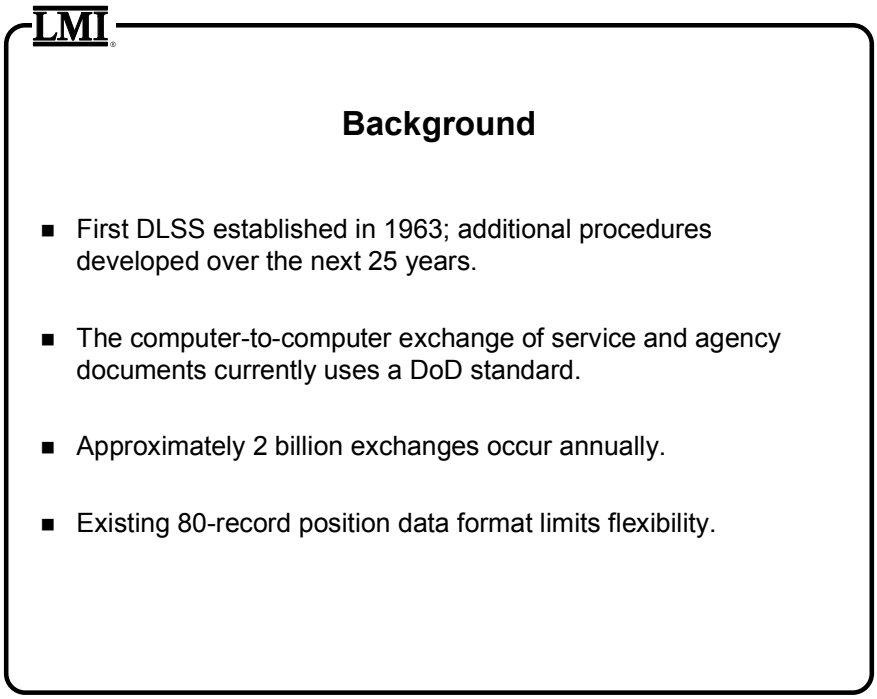



The Department of Defense is replacing the DLSS with the DLMS. The DLMS is based on American National Standards Institute's (ANSI's) Accredited Standards Committee (ASC) X12 Electronic Data Interchange (EDI) standards. In addition to incorporating DLSS data, the DLMS transactions also incorporate many capability enhancements to the existing transaction business rules requested by DoD and civil agencies. Much of the data carried by individual services in data fields available for "intra-service" use are not yet incorporated into DLMS transactions. To enable the individual services and Defense agencies to implement the DLMS fully, we must identify the service-unique data and transactions.

This briefing is a summary of Phase II of the review. We identified Air Force–unique data in the Military Standard Requisitioning and Issue Procedures (MILSTRIP) and Military Standard Transaction Reporting and Accounting Procedures (MILSTRAP) transactions and determined where the data can be incorporated into the DLMS.

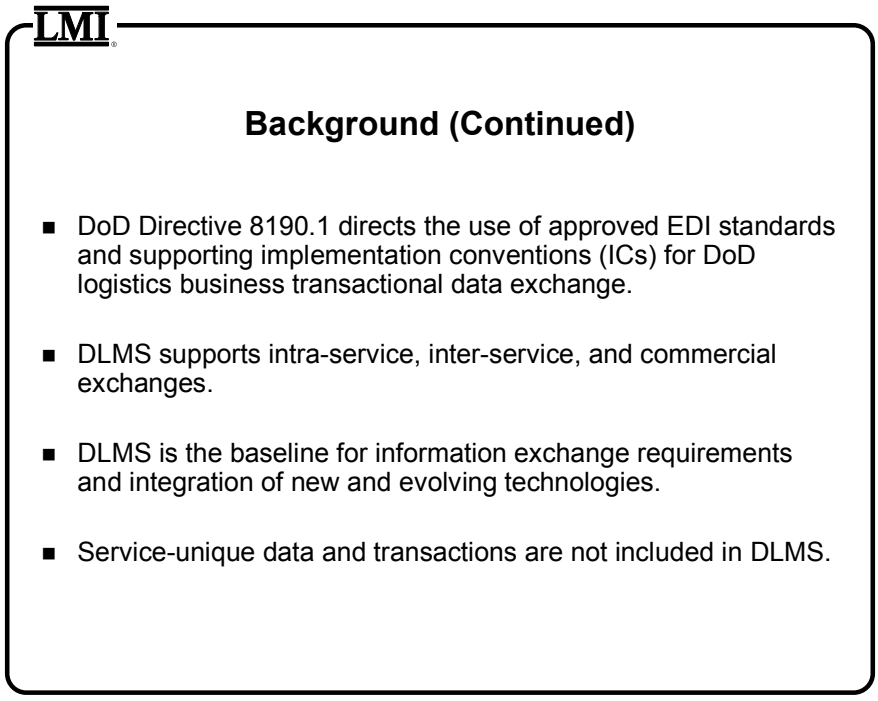
Our review of the Air Force–unique data revealed no significant difficulties in incorporating the Air Force data into the DLMS. Because of previous efforts to incorporate enhancements into the DLMS, many Air Force–unique data requirements can be mapped to the DLMS with no additional modifications. However, for the Air Force to use the MILSTRIP and MILSTRAP transactions, 56 items must have codes or data elements opened in the DLMS implementation conventions (ICs). None of the identified Air Force requirements require ASC X12 data maintenance.

This incorporation of DLSS data into the DLMS does not take full advantage of the enhanced capability built into the DLMS, primarily because of the legacy system constraints.




The DLSS incorporate a series of procedures and electronic transaction formats that govern DoD logistics operations. DLSS transactions convey data about requisitions, inventory, transportation, billing, and other information within the logistics automated data processing (ADP) systems of the military services and Defense agencies. DLSS transactions are crucial for the effective operation of DoD, and nearly 2 billion transactions occur annually.

Constraints of the existing 80-record position format for DLSS transactions restrict the military services and Defense agencies in their ability to fully capitalize on recent ADP technology advances.

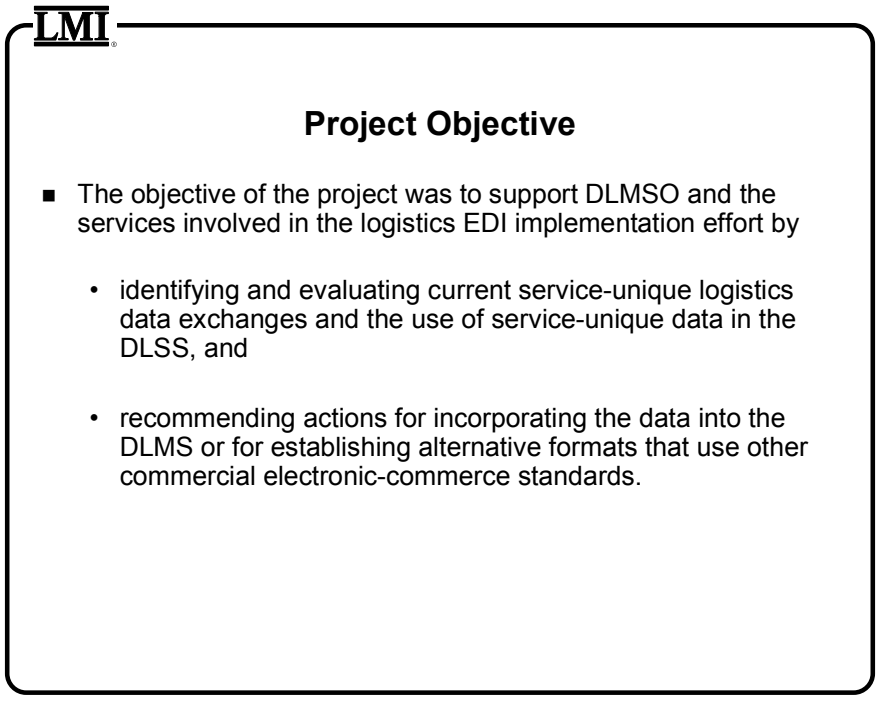



DoD Directive 8190.1, *DoD Logistics Use of Electronic Data Interchange Standards* (5 May 2000), directs the use of approved EDI standards and supporting ICs for DoD logistics business transactional data exchange.

The DLMS provides a broad base of business rules that are supported by ANSI ASC X12 commercial EDI standards. DLMS is designed to meet DoD's requirements for total logistics support. Adoption of these standards supports DoD's goals—improving and reengineering processes to incorporate commercial practices and increasing reliance on the commercial sector for logistics support. Further, replacing proprietary logistics transaction formats with ASC X12 EDI standards is a necessary steppingstone in the conversion to international open systems standards.

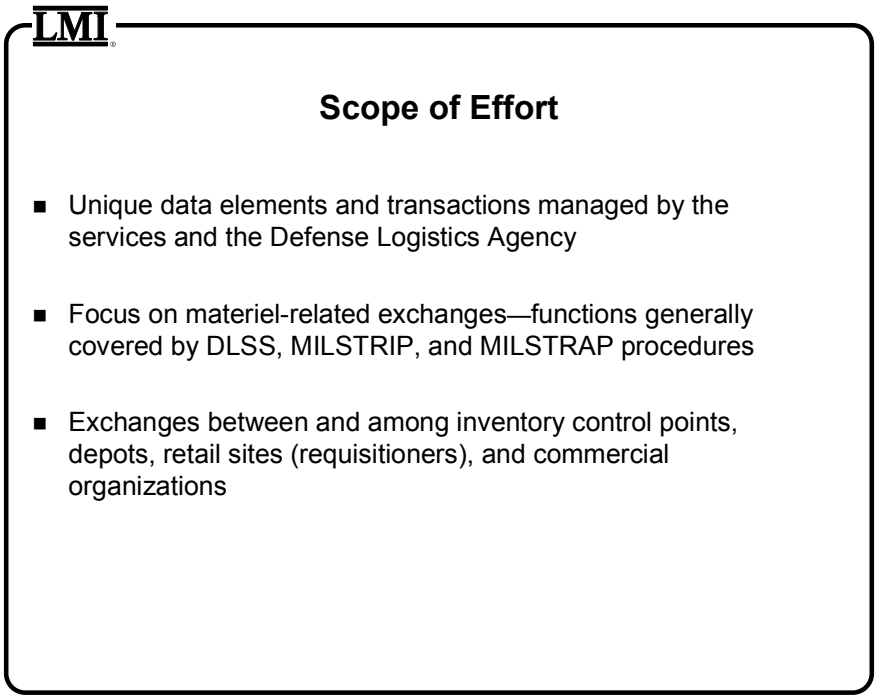
Over the past several years, substantial preparatory work for implementing the DLMS was completed. More than 425 DLSS formats were converted into approximately 26 ASC X12 transaction sets; and approximately 53 federal ICs were developed based on those transaction sets. In addition, the many DLSS manuals were revised into a single comprehensive DLMS manual. The DLMS transactions are based on the existing DLSS 80-record position transaction format; however, the DLMS transactions have greater flexibility and expanded data capability.

Initial development of DLMS transactions did not include the incorporation of most service-unique data elements, logistics transactions, and corresponding business rules.



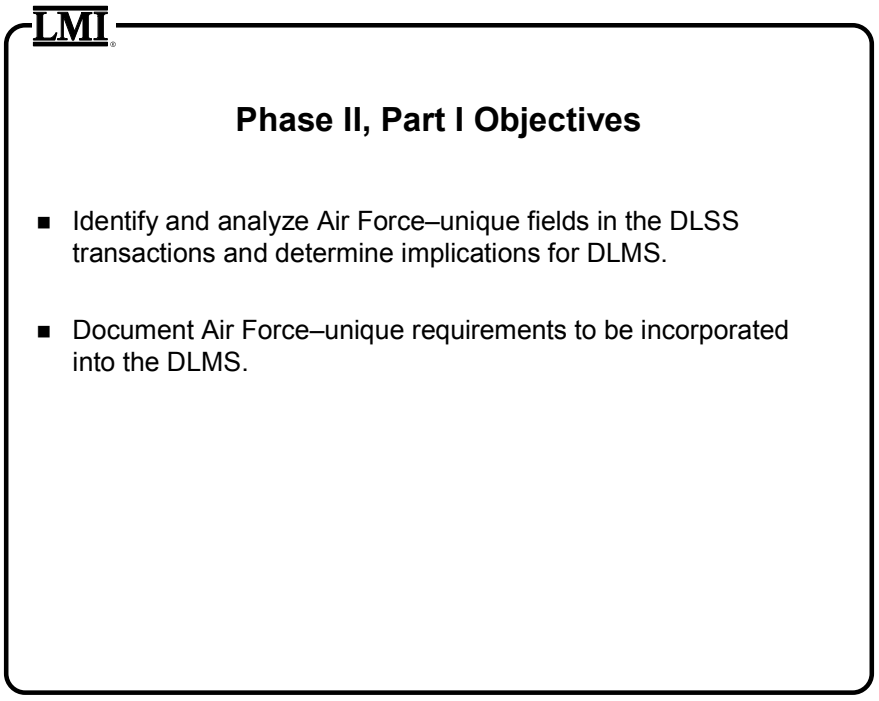

LMI is helping the Defense Logistics Management System Office (DLMSO) and the services' logistics community identify their unique data elements, transactions, codes, and corresponding business rules that will be incorporated into the DLMS or converted to EDI transactions. We will also identify requirements for supporting both existing logistics systems and future modernization of the systems. Our study will serve as a foundation for planning and coordinating the DLMS implementation.

We expect enhancements offered by the DLMS will eliminate many service-unique transactions by incorporating the data elements into existing DLMS transactions.



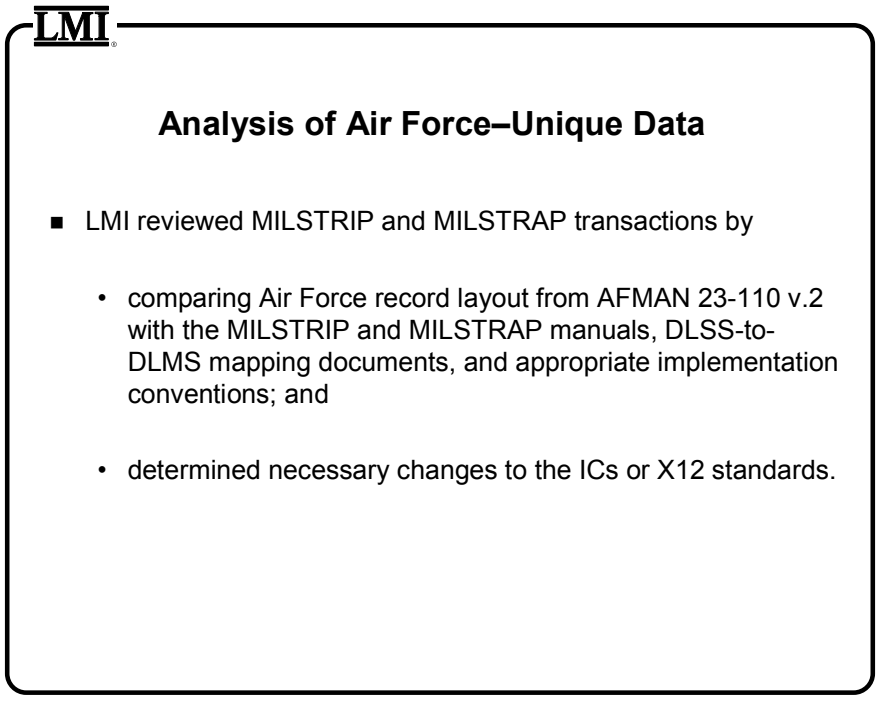

Ultimately, this project will identify the unique data elements and transactions for the services and Defense Logistics Agency that could be incorporated into the DLMS.

Our focus is on materiel-related exchanges covered primarily by the DLSS, MILSTRIP, and MILSTRAP procedures because most of the variable fields can be found in these exchanges.




The evolution of the DLSS made supplementing standard DoD transactions and processes with service-unique transactions and data conveyed in standard DoD transactions possible. The DLMSO-led effort began with a review of Army-unique fields in the DLSS transactions and Army-unique transactions. This continued with this review of Air Force–unique fields in the DLMS transactions.

The Air Force–unique document identifiers were analyzed to determine if transactions were unique and had to be included in an existing IC, or if the transaction could be incorporated into an existing DLMS transaction using additional data elements or codes.



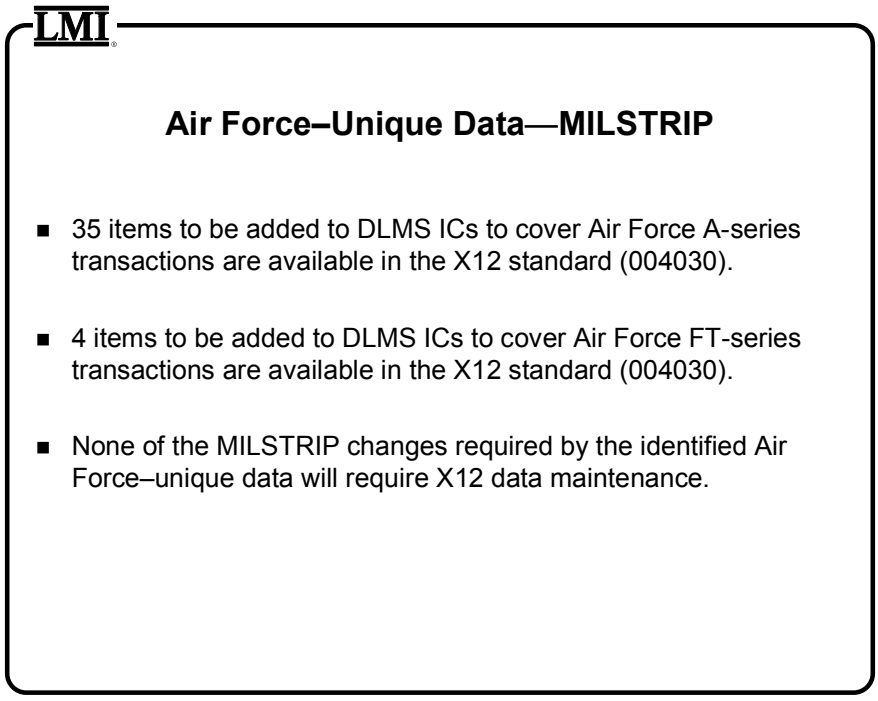

We analyzed each of the Air Force MILSTRIP A-series and FT-series transactions to determine if the data carried in them were unique to the Air Force, or if the transaction's functionality existed in a code carried within the IC. We also analyzed each of the Air Force MILSTRAP D-series transactions to determine service-unique uses.

We compared the Air Force record layouts from the Air Force Manual (AFMAN) 23-110 with the MILSTRIP and MILSTRAP manuals and the DLSS-to-DLMS mapping documents.

In our analysis, we identified where the Air Force record layout differed from DLSS record layout. We then reviewed the appropriate DLMS IC to determine if an existing data element or code was available to convey the Air Force–unique data requirement. If the existing IC could not convey the Air Force data requirement, we looked at the X12 standard to determine if a data element or code was available to carry the data.

Through our analysis, we identified 35 additions to the existing ICs for A-series document identifiers, 4 items to ICs for FT-series document identifiers, and 7 items to ICs for D-series document identifiers.

Appendix A contains a summary of the affected ICs and Appendix B contains the summary of the comparisons of A, F, and D series.



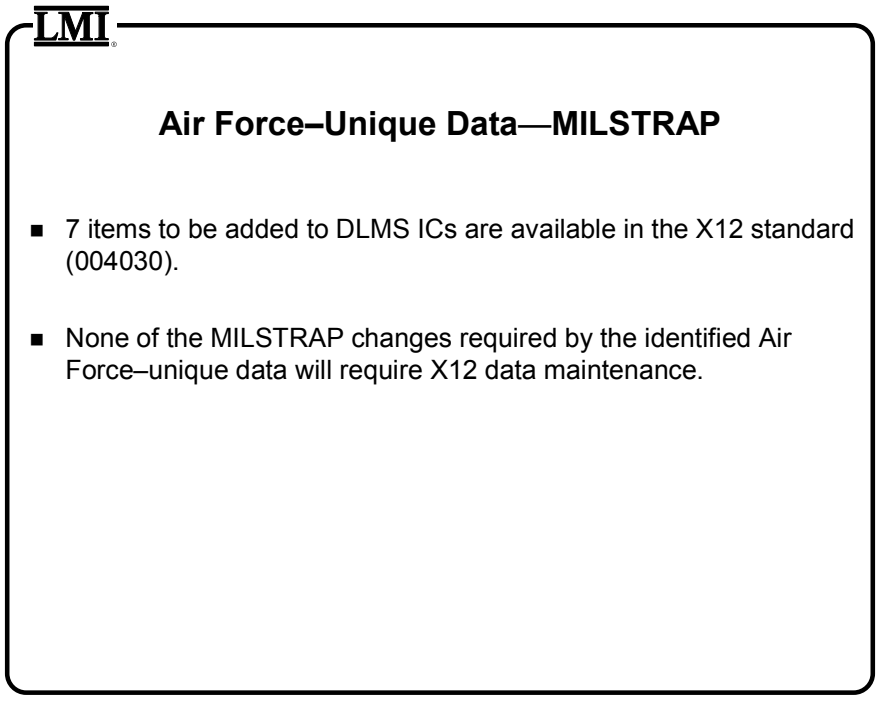

Our comparison of Air Force A- and FT-series document identifiers against the MILSTRIP manual identified 39 items that must be added to a number of existing DLMS ICs. Appendix A contains a summary of all changes required, by IC. Appendix B contains a summary of the required Air Force A- and F-series changes, by transaction.

The following items are available in the X12 standard (Version 004030):

- 180M: Mode of Shipment, Transportation Control Number, Date Shipped
- 517M: Document Identification Code, Ship To, Bill and Ship To, Bill To Party, Transaction Control Date, Composite Unit of Measure
- 812R: Media and Statue Code, Supply Condition Code
- 869A: Advice Code, Demand Code, Do not Deliver Before, Do not Deliver After, Special Requirements Code, Project Code
- 869C: Management Code
- 870M: Ship From
- 870N: Cubic Feet, Type Pack Code, Transportation Mode or Method, Country and Activity Code, Air Dimension Code, Water Commodity and Special Handling Code, Weight, Pieces, Priority Designator Code, Project Code

- 940R: Water Terminal Identifier, Consolidated and Containerization, Transportation Control Number, Air Terminal Identifier, Shipped on This Date, Shipment Hold Code, Document Identification Code

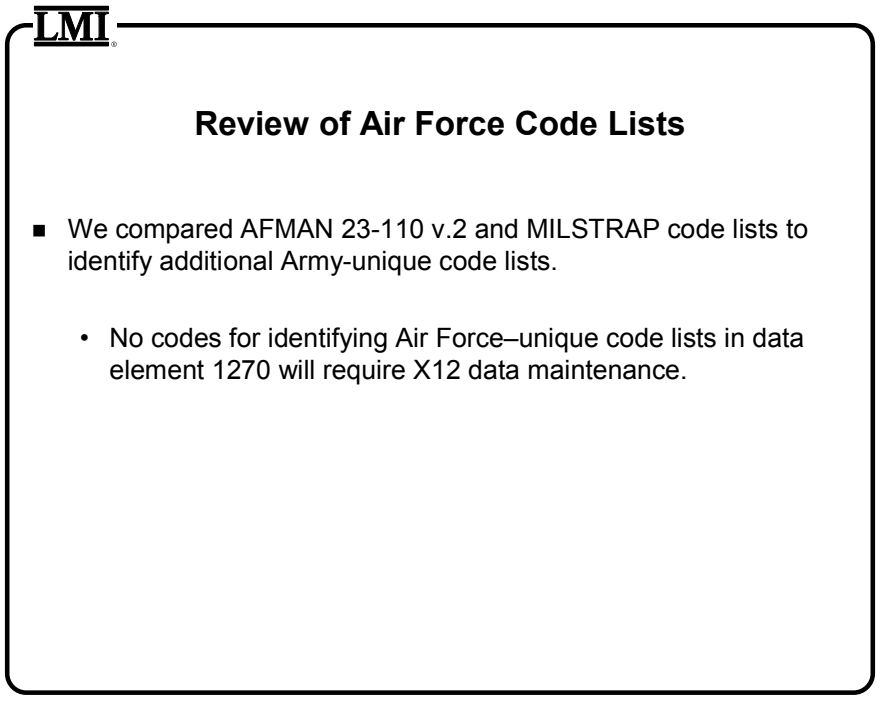
- 945A: Advice Code, Required By




Our comparison of Air Force D-series document identifiers against the MILSTRAP manual identified seven items to add to a number of DLMS ICs. Appendix A contains a summary of all required changes, by IC. Appendix B contains a summary of the required Air Force D-series changes, by transaction.

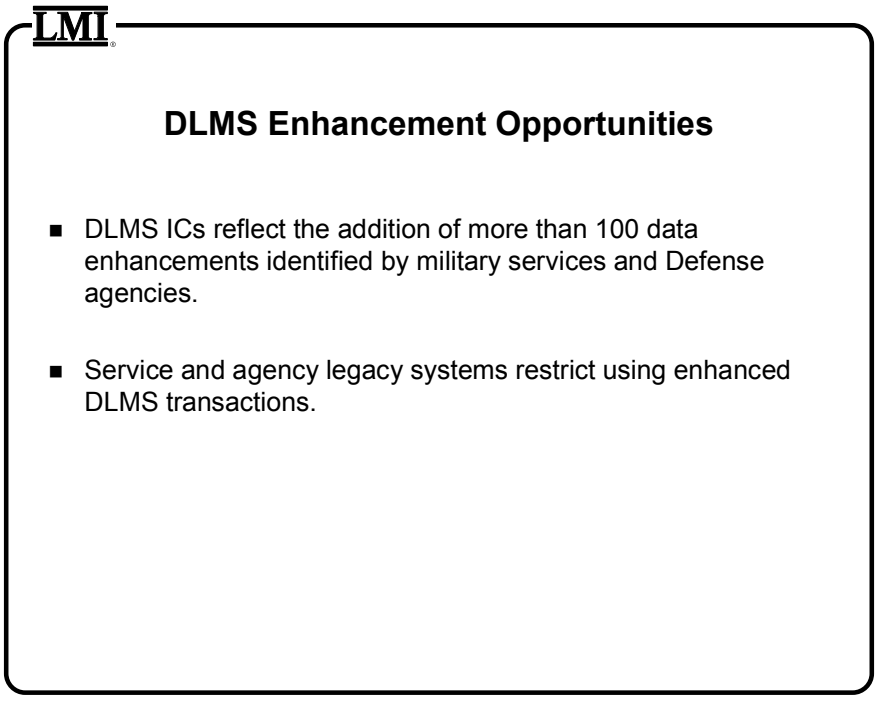
The following items are available in the X12 standard (Version 004030):

- 527D: Supplemental Data, Suffix
- 846P: Latest Receiving Date/Cutoff Date, Recorded Date
- 870L: Suffix, Advice Code
- 947I: Shelf Life Expiration Date



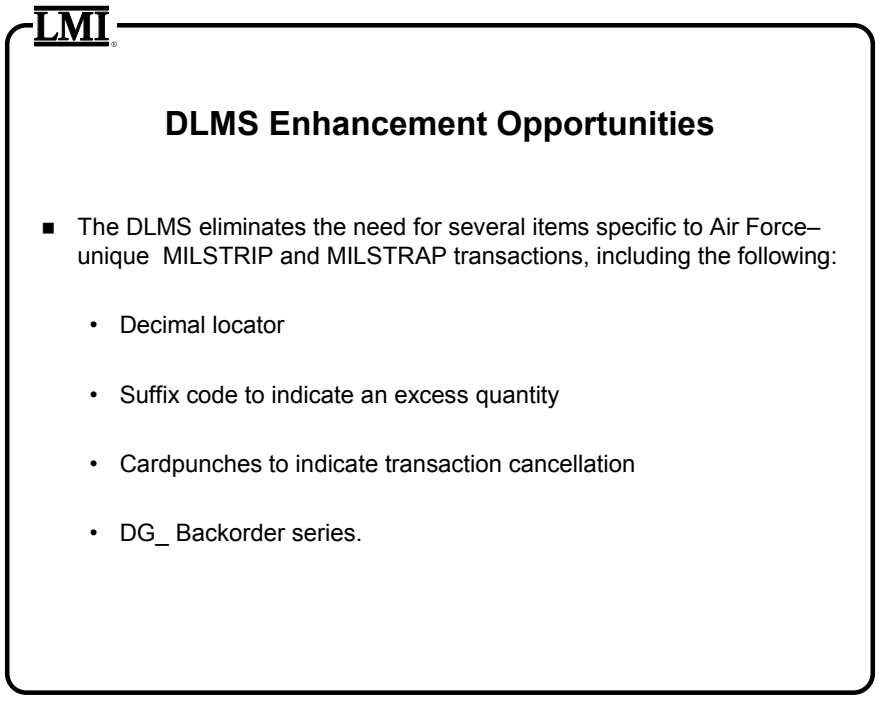

We compared Air Force codes listed in the AFMAN 23-110 and the MILSTRAP code lists and identified no code lists that need to be added to X12 data element 1270.

A preliminary review of the code lists in AFMAN 23-110 indicates there are no code lists to be added to the X12 standard to identify Air Force–unique data within this report. This could change pending Air Force response to MILSTRIP/MILSTRAP questions or the examination of any specific transactions.



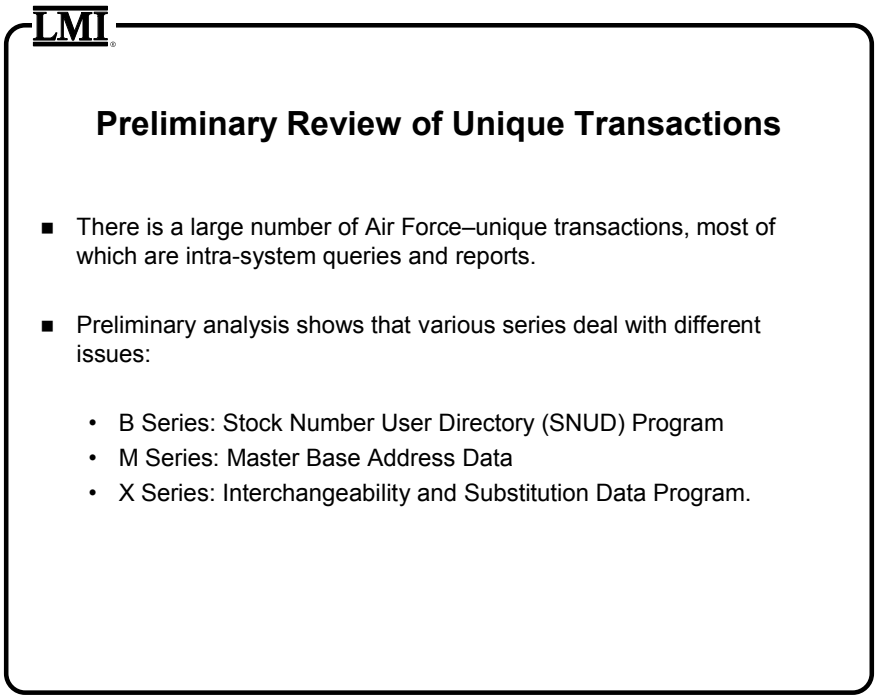

Converting from existing MILSTRIP and MILSTRAP transactions to the DLMS format is relatively simple. A more difficult and possibly more important task is taking advantage of the enhanced capability and flexibility of the ASC X12 EDI standards and DLMS transactions to streamline business processes and the resulting transactional exchanges. Enhanced data—included or excluded from transactions—must be identified and included in sender and receiver legacy systems. Likewise, some enhancements actually result in the elimination of some data elements.

As part of a DoD EDI study several years ago, the military services and Defense agencies submitted more than 300 proposed data enhancements for consideration. Of those, more than 100 enhancements were added to DLMS EDI ICs. The limiting factor for the enhancements is legacy system constraints on the exchange of enhanced data.

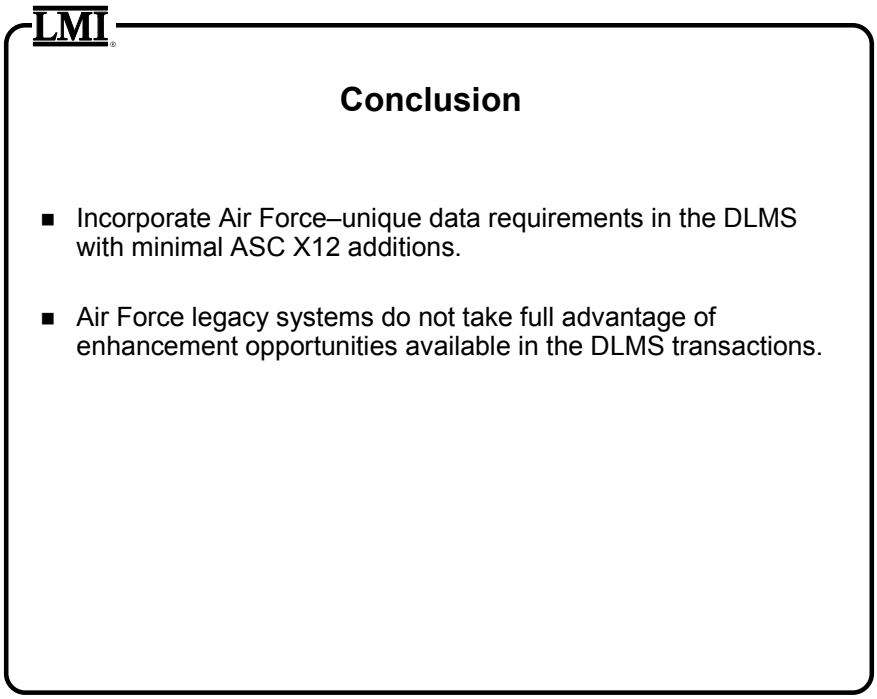



Our review of Air Force MILSTRIP and MILSTRAP transactions uncovered several specific opportunities for the use of the enhancements provided by the DLMS:

- Eliminates the need for data items (e.g., Decimal Locator) because numeric data fields of the X12 standard can carry at least 15 characters, including decimal points.
- Eliminates the need for such items as the use of Suffix Code "A" to indicate a quantity in excess of 99,999 in the DD_ Due-In (procurement instrument source) document.
- Eliminates the need for cardpunches to indicate a transaction cancellation or negative quantity because the X12 standard.
- Eliminates the need for the DG_ series of backorder transactions.




The Air Force has a large number of unique transactions. A preliminary survey of the B-, M-, and X-series indicates several of these transactions could be candidates for conversion to the DLMS. No specific information was provided by the Air Force indicating a desire to include the capability of any of these transactions in the DLMS.




Our review of Air Force–unique data elements in the MILSTRIP and MILSTRAP transactions revealed only a small number of elements that are not present in the applicable DLMS ICs. All of these Air Force–unique data requirements represent codes within existing data elements that are present in the ASC X12 standard (version 004030). No items will require X12 data maintenance.

The Air Force has many B-, N-, and X-series unique transactions. The majority of these documents appear to be intra-system transactions that fall outside the scope of the DLMS.

DLMS enhancements embodied in the federal logistics ICs do not appear to be widely used.

# Appendix A
# Implementation Convention Summary

Air Force use of intra-service fields in the DoD standard A-, D-, and FT-series transactions requires certain data items. Many of these items are available in the ASC X12 standard but are not currently open in the relevant DLMS ICs. Table A-1 lists the ICs that carry Air Force transactions, the associated Air Force ICs, and the items that must be opened for them to do so.

*Table A-1. Required IC Changes*

| DLMS IC | DIC | X12 |
|---|---|---|
| 180M | FTT | 2/TD504/055 |
| | FTT | 2/N901-2/400/TG—Transportation Control Number (TCN) |
| | FTT | 2/DTM01-2/130/011—Shipped |
| 517M | AN9, AN_, AP_ | 2/LQ01-2/080/0—Document Identification Code |
| | AN_ | 1/N101/060/ST—Ship To |
| | AN_ | 2/QTY03[C001-01]/010 |
| | AN_ | 1/N101/060/BS—Bill and Ship To |
| | AN_ | 1/N101/060/BT—Bill-to-Party |
| | AP_ | 2/G6201-2/040/BB—Transaction Control Date |
| 527D | DF_ | 2/LQ01-2/130/A9 |
| | DF_ | 2/N907[C04001-2]/090/W8—Suffix |
| 812R | FTP | 2/LQ01-2/206/83—Supply Condition Code |
| | FTP | 1/LQ01-2/156/DF—Media and Status |
| 846P | DZJ | 2/DTM01-2/100/995 |
| | DJA | 2/DTM01-2/100/311—Latest Receiving Date/Cutoff D |
| 869A | AT_/, AF_ | 2/LQ01-2/180/74—Demand Code |
| | AT_/, AF_ | 2/LQ01-2/180/AL—Special Requirements |
| | AT_/, AF_ | 2/DTM01-2/030/064—Do not Deliver Before |
| | AT_/, AF_ | 2/DTM01-2/030/063—Do not Deliver After |
| | AT_/, AF_ | 2/DTM01-2/030/996—Required Delivery |
| | AT_/, AF_ | 2/LQ01-2/180/80—Advice Code |
| | AT_/, AF_ | 2/LQ01-2/180/78—Project Code |
| 869C | AC | 2/LQ01-2/180/84—Management Code |
| 870L | DZ9 | 2/REF04[C0401-2]/087/W8—Suffix Code |
| | DZ9 | 2/LQ01-2/145/80—Advice Code |
| 870M | FTR, FTQ, FTD, FTL, FTZ, FT6 | 2/N101/090/SF—Ship From |
| 870N | AD5 | 2/QTY03[C001-01]/050/CF—Cubic Feet |
| | AD5 | 2/LQ01-2/145/40—Type Pack Code |
| | AD5 | 2/LQ01-2/145/39—Transportation Mode or Method Code |
| | AD5 | 2/LQ01-2/145/85—Country and Activity Code |
| | AD5 | 2/LQ01-2/145/35—Air Dimension Code |

*Table A-1. Required IC Changes (Continued)*

| DLMS IC | DIC | X12 |
|---|---|---|
| | AD5 | 2/LQ01-2/145/34—Water Commodity and Special Handling Code |
| | AD5 | 2/QTY01-2/050/8B—Weight |
| | AD5 | 2/QTY03[C001-01]/050/PC—Pieces |
| | AD5 | 2/LQ01-2/145/79—Priority Designator Code |
| | AD5 | 2/LQ01-2/145/78—Project Code |
| | AD5 | 2/LQ01-2/145/33—Air Commodity and Special Handling Code |
| 940R | AFX | 2/LQ01-02/1300/37—Water Terminal Identifier |
| | AFX | 2/LQ01-02/1300/38—Consolidated & Containerization Point Iden- |
| | AFX | 2/N901-2/400/TG—Transportation Control Number (TCN) |
| | AFX | 2/LQ01-02/1300/36—Air terminal Identifier |
| | AFX | 2/G6201-2/090/11—Shipped on This Date |
| | AFX | 2/LQ01-2/130/82—Shipment Hold Code |
| | AFX | 2/REF01-2/150/TG-Transportation Control Number |
| | A5J, AFJ, ACJ AKJ | 2/LQ01-2/130/0—Document Identification Code |
| 945A | A6_ | 2/G6201-2/050/BD—Required By |
| | A6_ | 2/LQ01-2/100/80—Advice Code |
| 947I | D8_, D9_ | 2/G6201-2/080/BJ—Shelf Life Expiration Date |

# Appendix B
# Air Force A-, D-, and FT-Series Transaction Summaries

The following tables summarize each document series by listing document identification codes, appropriate DLMS ICs, and ASC X12 components in each transaction that must be opened in the IC, and items in the document that currently are not in the ASC X12 standard. The A-, D-, and FT-series DLSS transactions that do not include service-unique fields have already been incorporated into the DLMS and are not listed here.

*Table B-1. A-Series Summary*

| DIC | DLMS IC | X12 | Add to IC? | Add to X12? |
|---|---|---|---|---|
| A5J, AFJ, ACJ, AKJ | 940R | 2/LQ01-2/130/0—Document Identification Code | Yes | No |
| A6_ | 945A | 2/LQ01-2/100/80—Advice Code | Yes | No |
| | | 2/G6201-2/050/BD—Required By | Yes | No |
| AC | 869C | 2/LQ01-2/180/84—Management Code | Yes | No |
| AD5 | 870N | 2/LQ01-2/145/40—Type Pack Code | Yes | No |
| | | 2/LQ01-2/145/33—Air Commodity and Special | Yes | No |
| | | 2/LQ01-2/145/34—Water Commodity and Spe- | Yes | No |
| | | 2/LQ01-2/145/35—Air Dimension Code | Yes | No |
| | | 2/LQ01-2/145/39—Transportation Mode or | Yes | No |
| | | 2/QTY03[C001-01]/050/PC—Pieces | Yes | No |
| | | 2/QTY01-2/050/8B—Weight | Yes | No |
| | | 2/QTY03[C001-01]/050/CF—Cubic Feet | Yes | No |
| | | 2/LQ01-2/145/79—Priority Designator Code | Yes | No |
| | | 2/LQ01-2/145/85—Country and Activity Code | Yes | No |
| | | 2/LQ01-2/145/78—Project Code | Yes | No |
| AFX | 940R | 2/LQ01-02/1300/38—Consolidated & Contain- | Yes | No |
| | | 2/LQ01-2/130/82—Shipment Hold Code | Yes | No |
| | | 2/G6201-2/090/11—Shipped on This Date | Yes | No |
| | | 2/LQ01-02/1300/37—Water Terminal Identifier | Yes | No |
| | | 2/N901-2/400/TG—Transportation Control | Yes | No |
| | | 2/LQ01-02/1300/36—Air terminal Identifier | Yes | No |
| | | 2/REF01-2/150/TG—Transportation Control | Yes | No |
| AN_ | 517M | 1/N101/060/BS—Bill and Ship To | Yes | No |
| | | 1/N101/060/BT—Bill-to-Party | Yes | No |
| | | 2/LQ01-2/080/0—Document Identification Code | Yes | No |
| | | 2/QTY03[C001-01]/010 | Yes | No |
| | | 1/N101/060/ST—Ship To | Yes | No |

*Table B-1. A-Series Summary*

| DIC | DLMS IC | X12 | Add to IC? | Add to X12? |
|---|---|---|---|---|
| AN9, ANZ | 517M | 2/LQ01-2/080/0—Document Identification Code | Yes | No |
| AP_ | 517M | 2/G6201-2/040/BB—Transaction Control Date | Yes | No |
| | | 2/LQ01-2/080/0—Document Identification Code | Yes | No |
| AT_/, AF_ | 869A | 2/LQ01-2/180/80—Advice Code | Yes | No |
| | | 2/LQ01-2/180/74—Demand Code | Yes | No |
| | | 2/LQ01-2/180/78—Project Code | Yes | No |
| | | 2/DTM01-2/030/996—Required Delivery | Yes | No |
| | | 2/DTM01-2/030/063—Do not Deliver After | Yes | No |
| | | 2/DTM01-2/030/064—Do not Deliver Before | Yes | No |
| | | 2/LQ01-2/180/AL—Special Requirements | Yes | No |

*Table B-2. D-Series Summary*

| DIC | DLMS IC | X12 | Add to IC? | Add to X12? |
|---|---|---|---|---|
| D8_, D9_ | 947I | 2/G6201-2/080/BJ—Shelf Life Expiration Date | Yes | No |
| DF_ | 527D | 2/LQ01-2/130/A9 | Yes | No |
| | | 2/N907[C04001-2]/090/W8—Suffix | Yes | No |
| DJA | 846P | 2/DTM01-2/100/311—Latest Receiving | Yes | No |
| DZ9 | 870L | 2/LQ01-2/145/80—Advice Code | Yes | No |
| | | 2/REF04[C0401-2]/087/W8—Suffix Code | Yes | No |
| DZJ | 846P | 2/DTM01-2/100/995 | Yes | No |

*Table B-3. FT-Series Summary*

| DIC | DLMS IC | X12 | Add to IC? | Add to X12? |
|---|---|---|---|---|
| FT6 | 870M | 2/N101/090/SF—Ship From | Yes | No |
| FTD | 870M | 2/N101/090/SF—Ship From | Yes | No |
| FTL | 870M | 2/N101/090/SF—Ship From | Yes | No |
| FTP | 812R | 2/LQ01-2/206/83—Supply Condition Code | Yes | No |
| | | 1/LQ01-2/156/DF—Media and Status | Yes | No |
| FTQ | 870M | 2/N101/090/SF—Ship From | Yes | No |
| FTR | 870M | 2/N101/090/SF—Ship From | Yes | No |
| FTT | 180M | 2/TD504/055 | Yes | No |
| | | 2/N901-2/400/TG—Transportation Control | Yes | No |
| | | 2/DTM01-2/130/011—Shipped | Yes | No |
| FTZ | 870M | 2/N101/090/SF—Ship From | Yes | No |

# Appendix C
# Abbreviations

| | |
|---|---|
| ADP | automated data processing |
| ANSI's | American National Standards Institute's |
| ASC | Accredited Standards Committee |
| DLMS | Defense Logistics Management System |
| DLMSO | Defense Logistics Management System Office |
| DLSS | Defense Logistics Standard System |
| EDI | Electronic Data Interchange |
| MILSTRAP | Military Standard Transaction Reporting and Accounting Procedures |
| MILSTRIP | Military Standard Requisitioning and Issue Procedures |